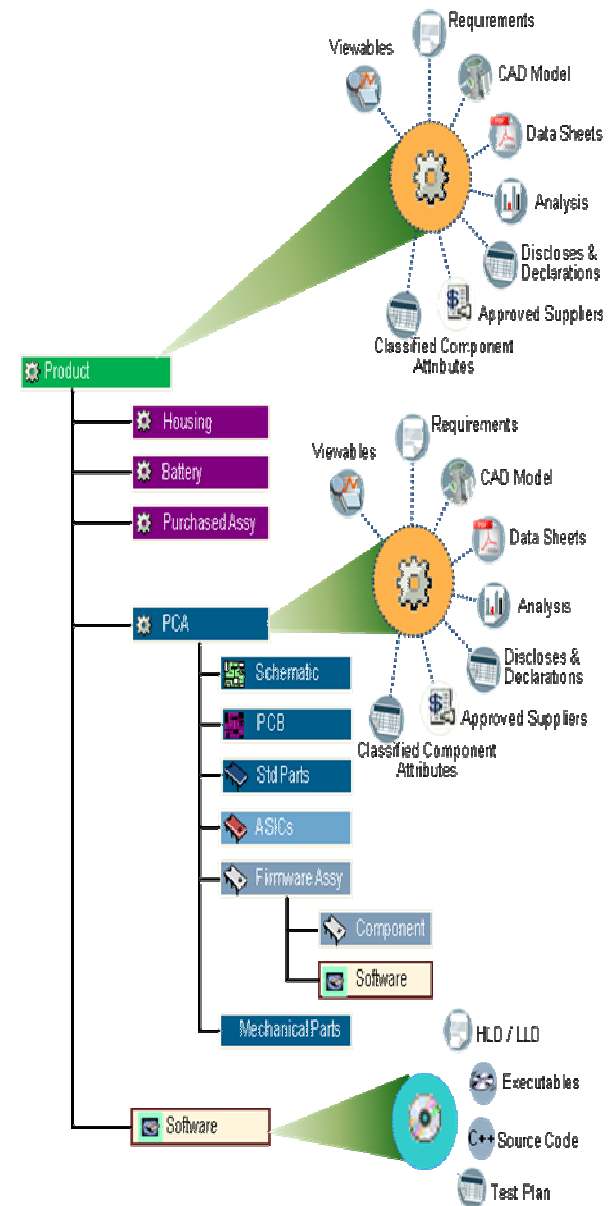# PDMLink/ProjectLink Uniqueness Solution
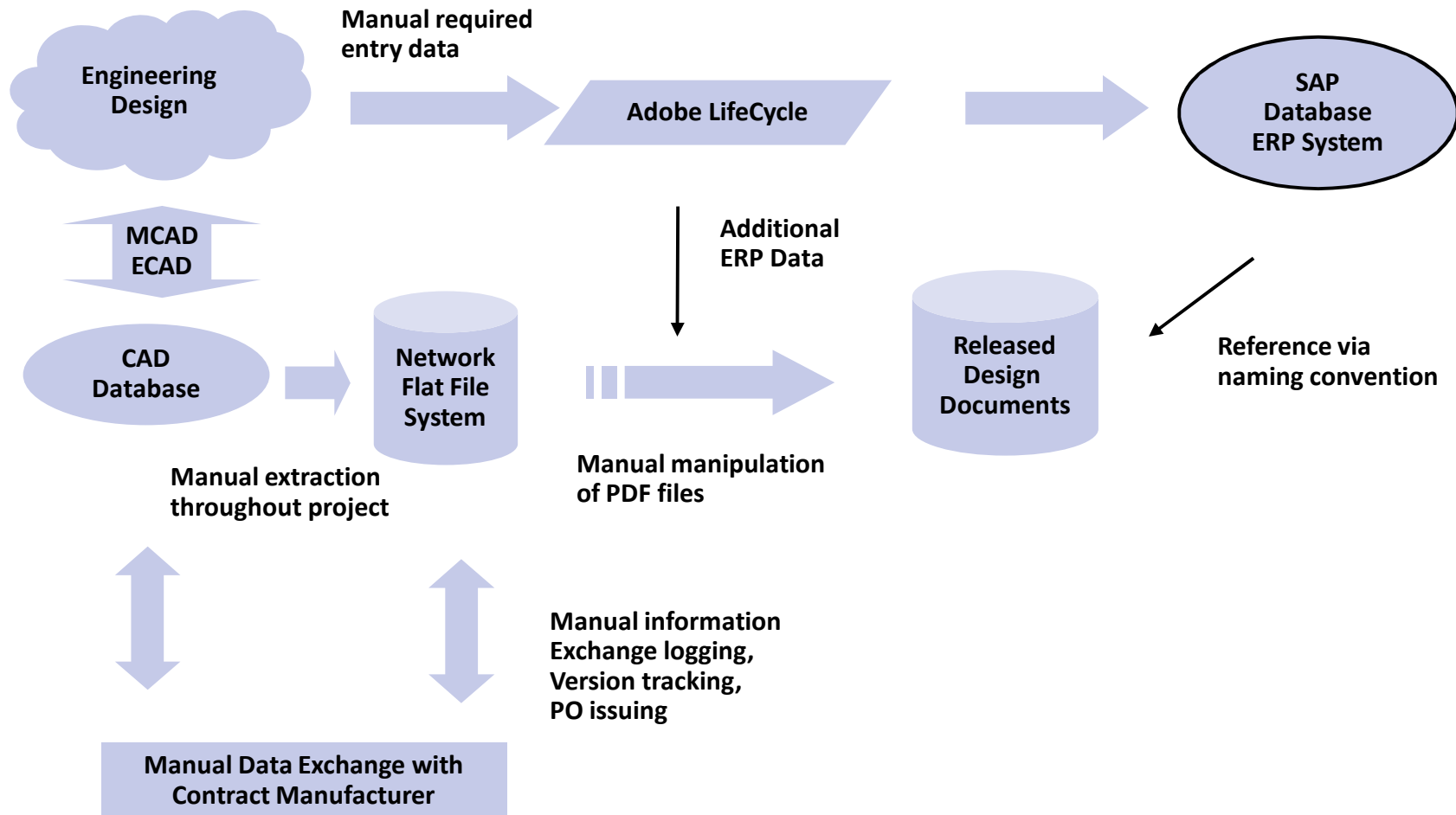
Focused on WTPart, WTDocument
and EPMDocument

Objective
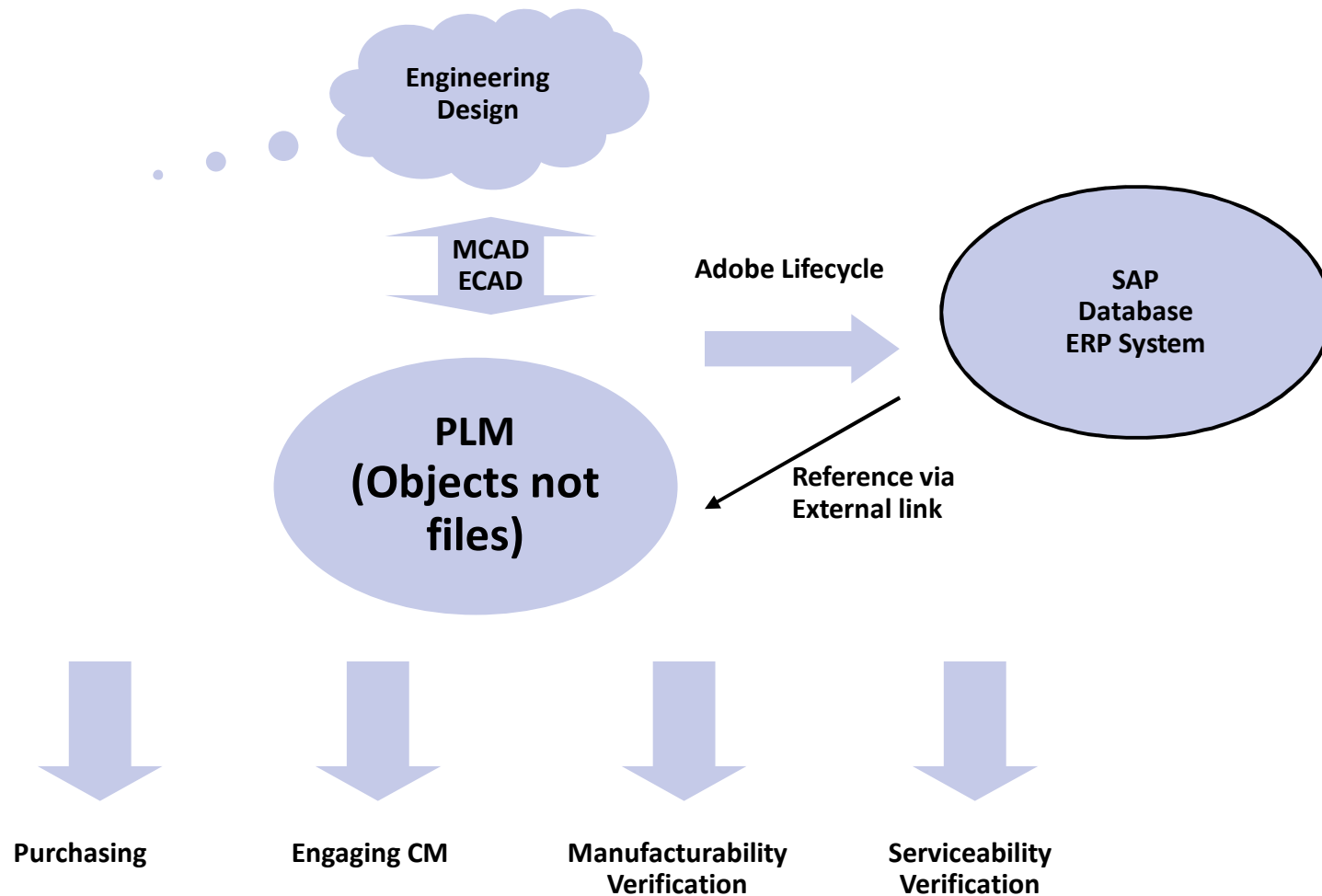
A "to be" vision of a complete business system encapsulating ERP and PLM systems integrating multiple forms of CAD data.
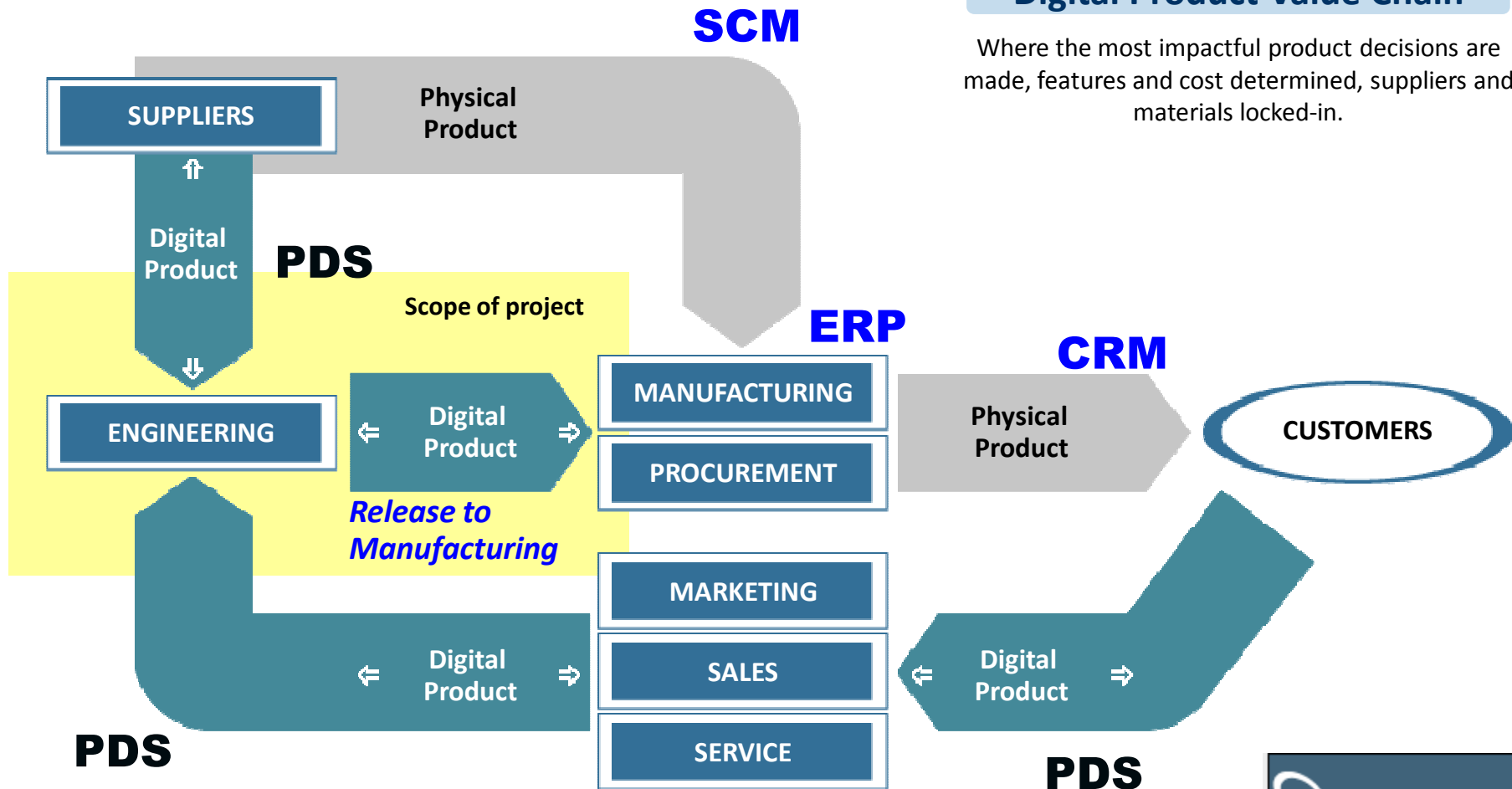
Current Process

Engineering Design

Manual required entry data

Adobe LifeCycle

SAP Database ERP System

MCAD ECAD

Additional ERP Data

CAD Database

Network Flat File System

Manual manipulation of PDF files

Released Design Documents

Reference via naming convention

Manual extraction throughout project

Manual information Exchange logging, Version tracking, PO issuing

Manual Data Exchange with Contract Manufacturer

Process After Stage 2 with PLM

Engineering Design

MCAD ECAD

Adobe Lifecycle

SAP Database ERP System

PLM (Objects not files)

Reference via External link

Purchasing

Engaging CM

Manufacturability Verification
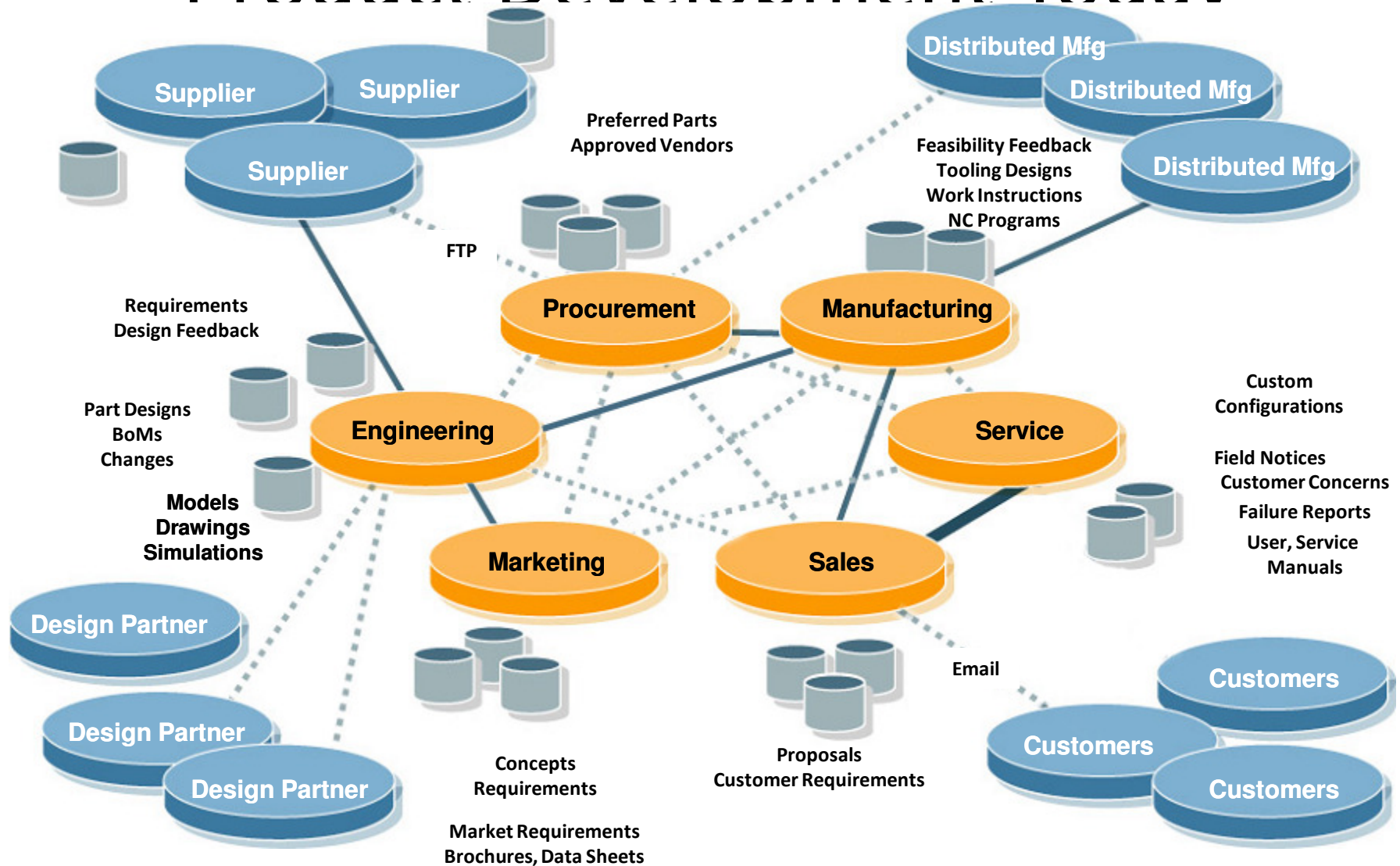
Serviceability Verification

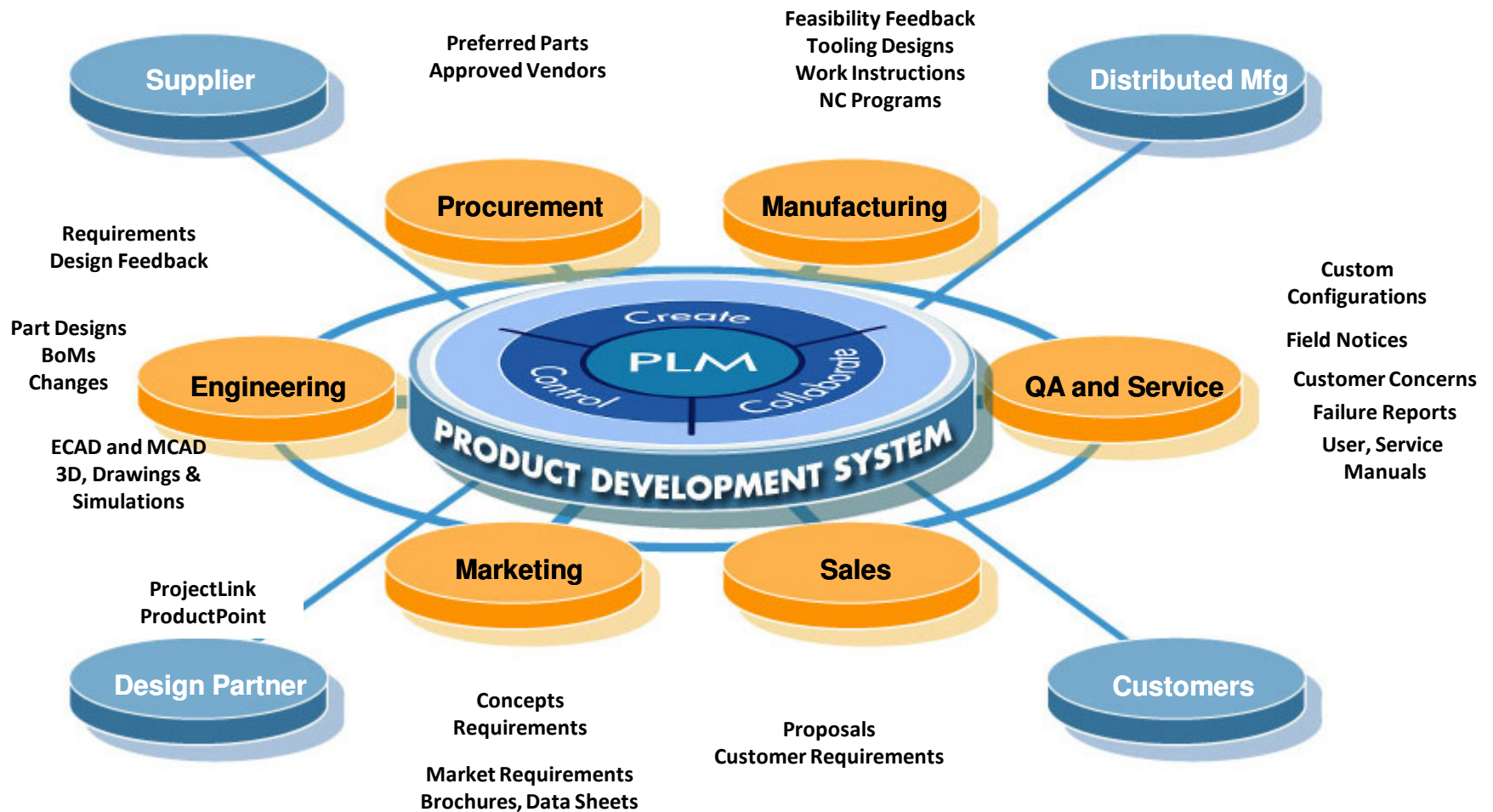# Completely in Sync with PTC Vision

Digital Product Value Chain

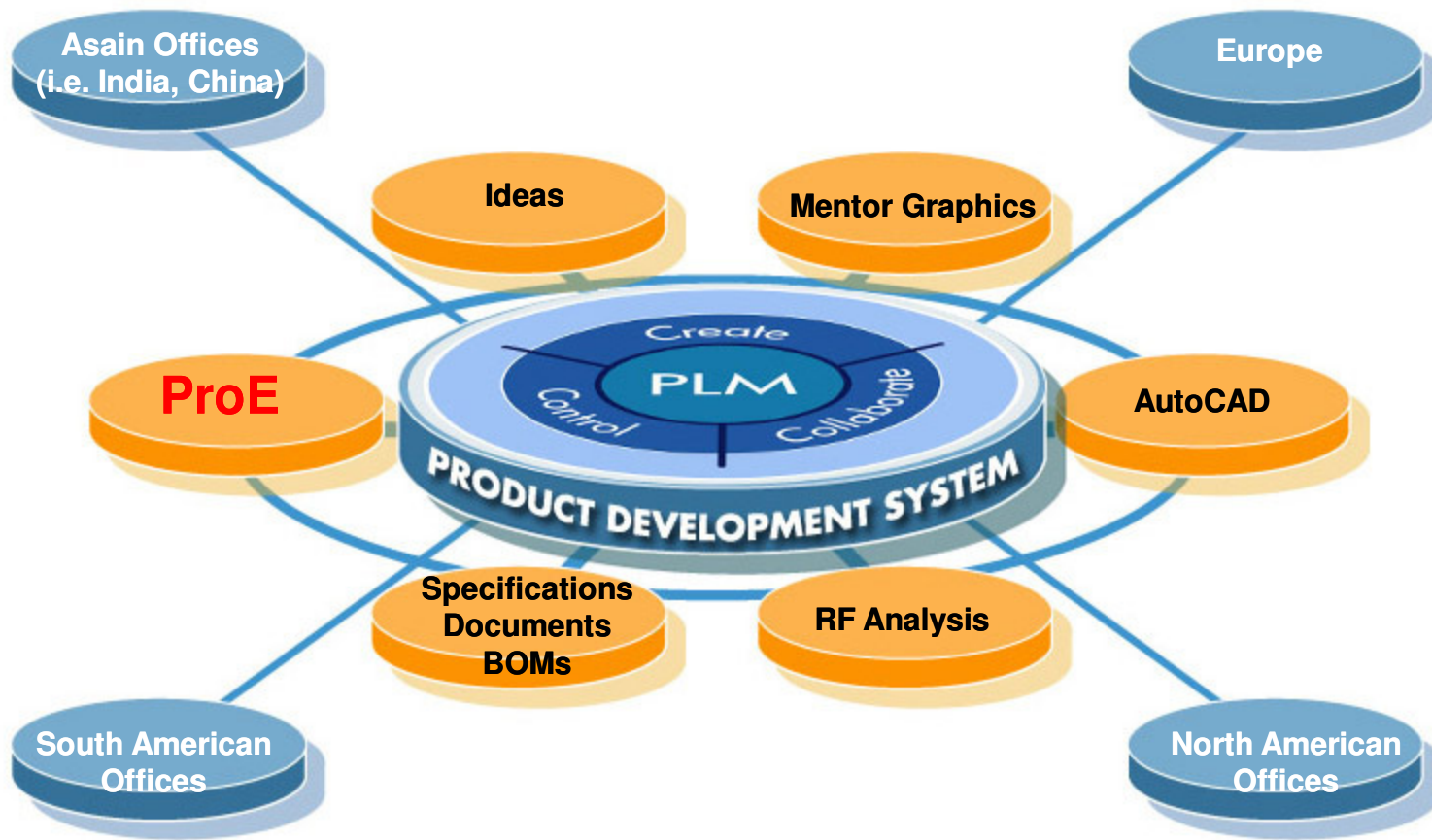Where the most impactful product decisions are made, features and cost determined, suppliers and materials locked-in.

SCM

ERP

CRM

PDS

PDS

PDS

SUPPLIERS

Physical Product

Digital Product

Scope of project

ENGINEERING

Digital Product

Release to Manufacturing

MANUFACTURING

PROCUREMENT

Physical Product

CUSTOMERS

MARKETING

SALES

SERVICE

Digital Product

Digital Product

PTC
The Product Development Company

Product Development Today

Supplier

Supplier

Supplier

Distributed Mfg

Distributed Mfg

Distributed Mfg

Preferred Parts
Approved Vendors

Feasibility Feedback
Tooling Designs
Work Instructions
NC Programs

FTP

Requirements
Design Feedback

Procurement

Manufacturing

Part Designs
BoMs
Changes

Engineering

Service

Custom
Configurations

Models
Drawings
Simulations

Marketing

Sales

Field Notices
Customer Concerns
Failure Reports
User, Service
Manuals

Design Partner

Design Partner

Design Partner

Email

Customers

Customers

Customers

Concepts
Requirements

Proposals
Customer Requirements

Market Requirements
Brochures, Data Sheets

Optimized Product Development System

Supplier

Preferred Parts
Approved Vendors

Feasibility Feedback
Tooling Designs
Work Instructions
NC Programs

Distributed Mfg

Procurement

Manufacturing

Requirements
Design Feedback

Custom
Configurations

Field Notices

Part Designs
BoMs
Changes

Create

PLM

Control   Collaborate

Engineering

QA and Service

Customer Concerns

Failure Reports

User, Service
Manuals

ECAD and MCAD
3D, Drawings &
Simulations

PRODUCT DEVELOPMENT SYSTEM

Marketing

Sales

ProjectLink
ProductPoint

Design Partner

Customers

Concepts
Requirements

Proposals
Customer Requirements

Market Requirements
Brochures, Data Sheets

Optimized Engineering Application Focused

Standard Global Business Practice

- **In an organization, the number is unique to identify a part.**

- **Types Documents that describe the part can be numbered identical to the part number.**

- **Documents of the same type have a unique number.**

Duplication between Project and PDMLink

- Duplication is due to the fact that ProjectLink and PDMLink started and can be sold as separate systems. The duplication was allowed to make migration of the solutions easier. But it does not follow the business enterprise solution.

- All Com Dev IP Part information is properly numbered and checked into the common PDMLink. There cannot be duplication of Part Numbers.

- ProjectLink is used as a collaboration sharing portal for external ODMs for intellectual property. ODMs can create designs to be approved and checked back into/"SEND TO PDM" the common PDMLink.

- Depending on CAD authoring application and author, CAD files are numbered according to the Part Number

- With various CAD authoring applications of Ideas, ProE and Mentor, the files are numbered according to the Part Number

- There can only be one unique number per CAD/DOC type that corresponds to COMDEV Part.

Step 1 – User Down Time

- Applying this solution must take place on mirrored development, test and then production in that order when users are notified not to use the system.

- Prior to implementing on Production, it is advised to perform rigorous testing on development and test after implementing the solution

Step 2a – Finding Duplicates

- **Duplication between Project and PDMLink allowed for WTParts, WTDocuments and EPMDocuments**

  - **Allowed to create, modify, approve and revise duplicate items in either ProjectLink and PDMLink**

```
SQL> SELECT WTKEY FROM WTPARTMASTERKEY GROUP BY WTKEY HAVING COUNT(*) > 1;
SQL> SELECT WTKEY FROM WTDOCUMENTMASTERKEY GROUP BY WTKEY HAVING COUNT(*) > 1;
SQL> SELECT WTKEY FROM EPMDOCUMENTMASTERKEY GROUP BY WTKEY HAVING COUNT(*) > 1;

or

SQL> SELECT WTPARTNUMBER FROM WTPARTMASTER GROUP BY WTPARTNUMBER HAVING COUNT(*) > 1;
SQL> SELECT WTDOCUMENTNUMBER FROM WTDOCUMENTMASTER GROUP BY WTDOCUMENTNUMBER HAVING
COUNT(*) > 1;
SQL> SELECT DOCUMENTNUMBER FROM EPMDOCUMENTMASTER GROUP BY DOCUMENTNUMBER HAVING
COUNT(*) > 1;
```

Step 2b – Finding Duplicates via Oracle

SELECT "EPMDOCUMENTMASTER"."CADNAME" as "CADNAME", "EPMDOCUMENTMASTER"."AUTHORINGAPPLICATION" as "AUTHORINGAPPLICATION",

"EPMDOCUMENTMASTER"."CLASSNAMEKEYCONTAINERREFEREN" as "CLASSNAMEKEYCONTAINERREFEREN",

"EPMDOCUMENTMASTER"."IDA3CONTAINERREFERENCE" as "IDA3CONTAINERREFERENCE", "EPMDOCUMENTMASTER"."DEFAULTUNIT" as "DEFAULTUNIT",

"EPMDOCUMENTMASTER"."DOCSUBTYPE" as "DOCSUBTYPE", "EPMDOCUMENTMASTER"."DOCTYPE" as "DOCTYPE", "EPMDOCUMENTMASTER"."NAME" as "NAME",
"EPMDOCUMENTMASTER"."DOCUMENTNUMBER" as "DOCUMENTNUMBER", "EPMDOCUMENTMASTER"."CLASSNAMEKEYA6" as "CLASSNAMEKEYA6", "EPMDOCUMENTMASTER"."IDA3A6" as
"IDA3A6", "EPMDOCUMENTMASTER"."CLASSNAMEKEYORGANIZATIONREFE" as "CLASSNAMEKEYORGANIZATIONREFE",

"EPMDOCUMENTMASTER"."IDA3ORGANIZATIONREFERENCE" as "IDA3ORGANIZATIONREFERENCE", "EPMDOCUMENTMASTER"."OWNERAPPLICATION" as

"OWNERAPPLICATION", "EPMDOCUMENTMASTER"."SERIES" as "SERIES", "EPMDOCUMENTMASTER"."CREATESTAMPA2" as "CREATESTAMPA2",

"EPMDOCUMENTMASTER"."MARKFORDELETEA2" as "MARKFORDELETEA2", "EPMDOCUMENTMASTER"."MODIFYSTAMPA2" as "MODIFYSTAMPA2",

"EPMDOCUMENTMASTER"."CLASSNAMEA2A2" as "CLASSNAMEA2A2", "EPMDOCUMENTMASTER"."IDA2A2" as

"IDA2A2", "EPMDOCUMENTMASTER"."UPDATECOUNTA2" as "UPDATECOUNTA2", "EPMDOCUMENTMASTER"."UPDATESTAMPA2" as "UPDATESTAMPA2",

"EPMDOCUMENTMASTER"."BRANCHIDA2TYPEDEFINITIONREFE" as "BRANCHIDA2TYPEDEFINITIONREFE", "EPMDOCUMENTMASTER"."IDA2TYPEDEFINITIONREFERENCE" as
"IDA2TYPEDEFINITIONREFERENCE" FROM "EPMDOCUMENTMASTER"   WHERE ("DOCUMENTNUMBER" = 'ENTER NUMBER HERE')

Step 3a – Renumbering Duplicates

- A decision is made to renumber the object in either ProjectLink or PDMLink using UI of Windchill

- At site level using Windchill Search, search for the number and select Rename in the Actions link.

- Enter a new number and filename then select OK

  - Most cases, I would renumber and change the filename of the ProjectLink objects to:

  Number: 1234567 → 1234567_projectname

  Filename: 1234567.prt   → 1234567_projectname.prt

- Rerun the SQLs in step 1 to confirm that you did not renumber or change the file name that exist in another project.

Step 3b – Renumbering Duplicates in Oracle

- There are cases where the duplicate is in a Project Workspace. Thus using the search in Windchil will only show one result. In Oracle you can find the duplicate record in the EPMDOCUMENTMASTER table

Step 3b – Finding Duplicates Context in Oracle

- The "EPMDOCUMENTMASTER"."IDA3CONTAINERREFERENCE" is the reference value of PROJECT2.IDA2A2, PDMLINKPRODUCT.IDA2A2 and WTLIBRARY.IDA2A2

Step 3c – Finding the Duplicates Context in Oracle

- In this case, a search was performed in Project2 table:

SELECT "PROJECT2"."CLASSNAMEKEYA2CONTAINERINFO" as "CLASSNAMEKEYA2CONTAINERINFO", "PROJECT2"."IDA3A2CONTAINERINFO" as   "IDA3A2CONTAINERINFO",
    "PROJECT2"."NAMECONTAINERINFO" as "NAMECONTAINERINFO", "PROJECT2"."CLASSNAMEKEYCONTAINERREFEREN" as   "CLASSNAMEKEYCONTAINERREFEREN",
    "PROJECT2"."IDA3CONTAINERREFERENCE" as "IDA3CONTAINERREFERENCE",   "PROJECT2"."CLASSNAMEKEYORGANIZATIONREFE" as "CLASSNAMEKEYORGANIZATIONREFE",
    "PROJECT2"."IDA3ORGANIZATIONREFERENCE" as   "IDA3ORGANIZATIONREFERENCE", "PROJECT2"."PROJECTNUMBER" as "PROJECTNUMBER", "PROJECT2"."CLASSNAMEKEYA7" as
    "CLASSNAMEKEYA7",   "PROJECT2"."IDA3A7" as "IDA3A7", "PROJECT2"."CLASSNAMEA2A2" as "CLASSNAMEA2A2", "PROJECT2"."IDA2A2" as "IDA2A2" FROM "PROJECT2"   WHERE (
    "IDA2A2" = '**48466883**')

17

Step 3d – Renumbering Both EPMDOCUMENTMASTER AND EPMDOCUMENTMASTERKEY Duplicates in Oracle

- the objects EPMDOCUMENTMASTERKEY.WTKEY, EPMDOCUMENTMASTER.CADNAME and EPMDOCUMENTMASTER.DOCUMENTNUMBER were reset to *_india*:

SELECT WTKEY FROM EPMDOCUMENTMASTERKEY GROUP BY WTKEY HAVING COUNT(*) > 1;

SELECT "PDMLINK"."EPMDOCUMENTMASTERKEY"."WTKEY" as "WTKEY",

"PDMLINK"."EPMDOCUMENTMASTERKEY"."CLASSNAMEKEYA4" as "CLASSNAMEKEYA4",

"PDMLINK"."EPMDOCUMENTMASTERKEY"."IDA3A4" as "IDA3A4"

from "PDMLINK"."EPMDOCUMENTMASTERKEY" where ("WTKEY"='185439-GSE.ASM');

SELECT "PDMLINK"."EPMDOCUMENTMASTER"."IDA2A2" as "IDA2A2",

"PDMLINK"."EPMDOCUMENTMASTER"."CADNAME" as "CADNAME",

"PDMLINK"."EPMDOCUMENTMASTER"."DOCUMENTNUMBER" as "DOCUMENTNUMBER",

"PDMLINK"."EPMDOCUMENTMASTER"."CLASSNAMEKEYCONTAINERREFEREN" as "CLASSNAMEKEYCONTAINERREFEREN",

"PDMLINK"."EPMDOCUMENTMASTER"."IDA3CONTAINERREFERENCE" as "IDA3CONTAINERREFERENCE",

"PDMLINK"."EPMDOCUMENTMASTER"."AUTHORINGAPPLICATION" as "AUTHORINGAPPLICATION"

from "PDMLINK"."EPMDOCUMENTMASTER" where ("IDA2A2"='124636760');

Step 4 – Adding More Doctypes to Sychronize with File Extensions

- **Depending on your CAD tool, you may need to add more doctypes**

Step 5 – Current Oracle Unique Indexes in Windchill

- **Currently uniqueness is based on**

  - **For WTPART**

    WTPARTMASTERKEY$UNIQUE ON WTPARTMASTERKEY Table

    WTKEY, IDA3ORAGANIZATIONREFERENCE, IDA3NAMESPACEREFERENCE

  - **For WTDOCUMENT**

    WTDOCUMENTMASTERKEY$UNIQUE ON WTDOCUMENTMASTERKEY Table

    WTKEY, IDA3ORAGANIZATIONREFERENCE, IDA3NAMESPACEREFERENCE

  - **For EPMDOCUMENT**

    EPMDOCUMENTMASTERKEY$UNIQUE ON EPMDOCUMENTMASTERKEY Table

    WTKEY, IDA3ORAGANIZATIONREFERENCE, IDA3NAMESPACEREFERENCE

Step 5 – New Oracle Unique Indexes to Enforce Uniqueness in PLM

- In SQLPLUS logged in as the Windchill oracle user, run the following command to drop and recreate the new unique indexes*

SQL> drop index WTPartMasterKey$UNIQUE;
SQL> drop index WTDocumentMasterKey$UNIQUE;
SQL> drop index EPMDocumentMasterKey$UNIQUE;

SQL> CREATE UNIQUE INDEX WTPartMasterKey$UNIQUE ON WTPartMasterKey(wtkey,idA3organizationReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0);

SQL> CREATE UNIQUE INDEX WTDocumentMasterKey$UNIQUE ON WTDocumentMasterKey(wtkey,idA3organizationReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0);

> Or SQL> CREATE UNIQUE INDEX WTDocumentMaster$UNIQUE ON WTDocumentMaster(WTdocumentnumber,doctype,idA3organizationReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0);

SQL> CREATE UNIQUE INDEX EPMDocumentMaster$UNIQUE ON EPMDocumentMaster(documentnumber,doctype,authoringapplication,idA3organizationReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0);

SQL> CREATE UNIQUE INDEX EPMDocumentMasterFile$UNIQUE ON EPMDocumentMaster(cadname,authoringapplication,idA3organizationReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0);

Step 6 – Updating Site Preferences

- **Documents**
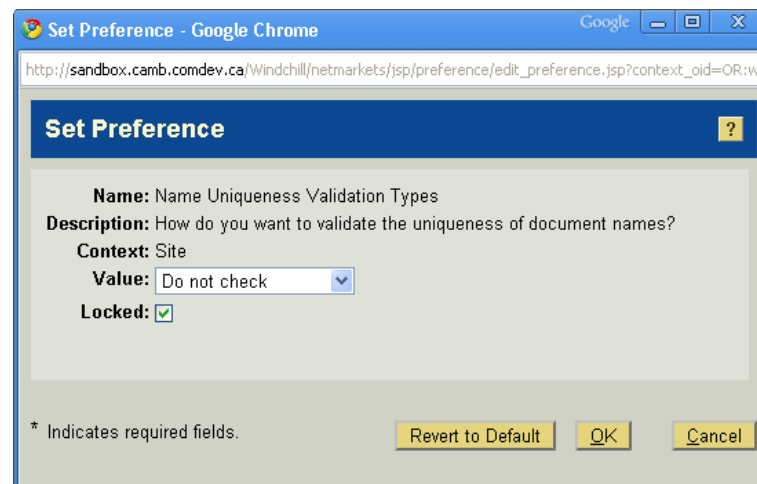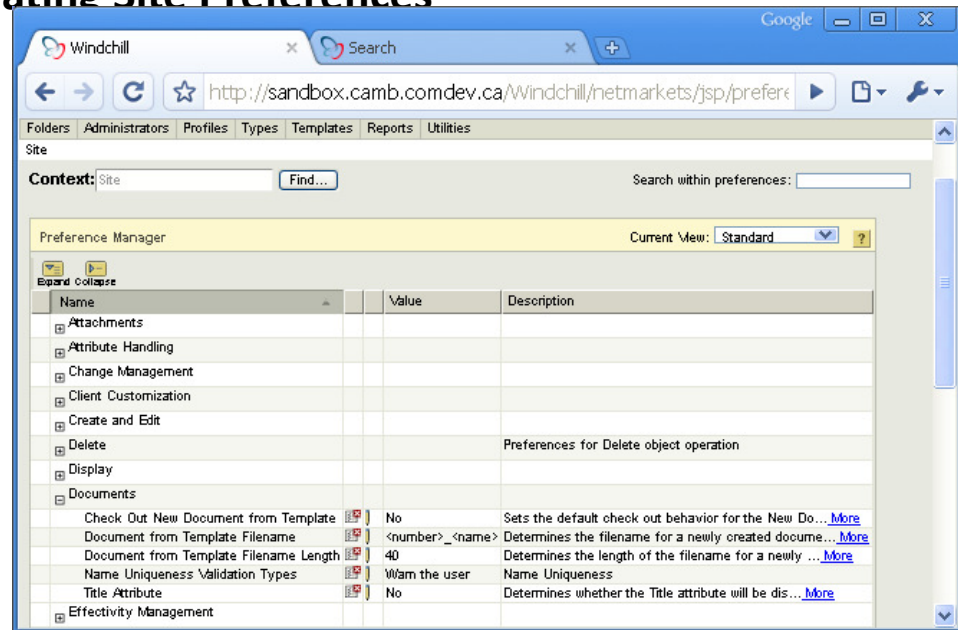
Step 6 – Updating Site Preferences - Windchill Workgroup Manager

Step 7 – Updating Table Views in Windchill Workgroup Manager
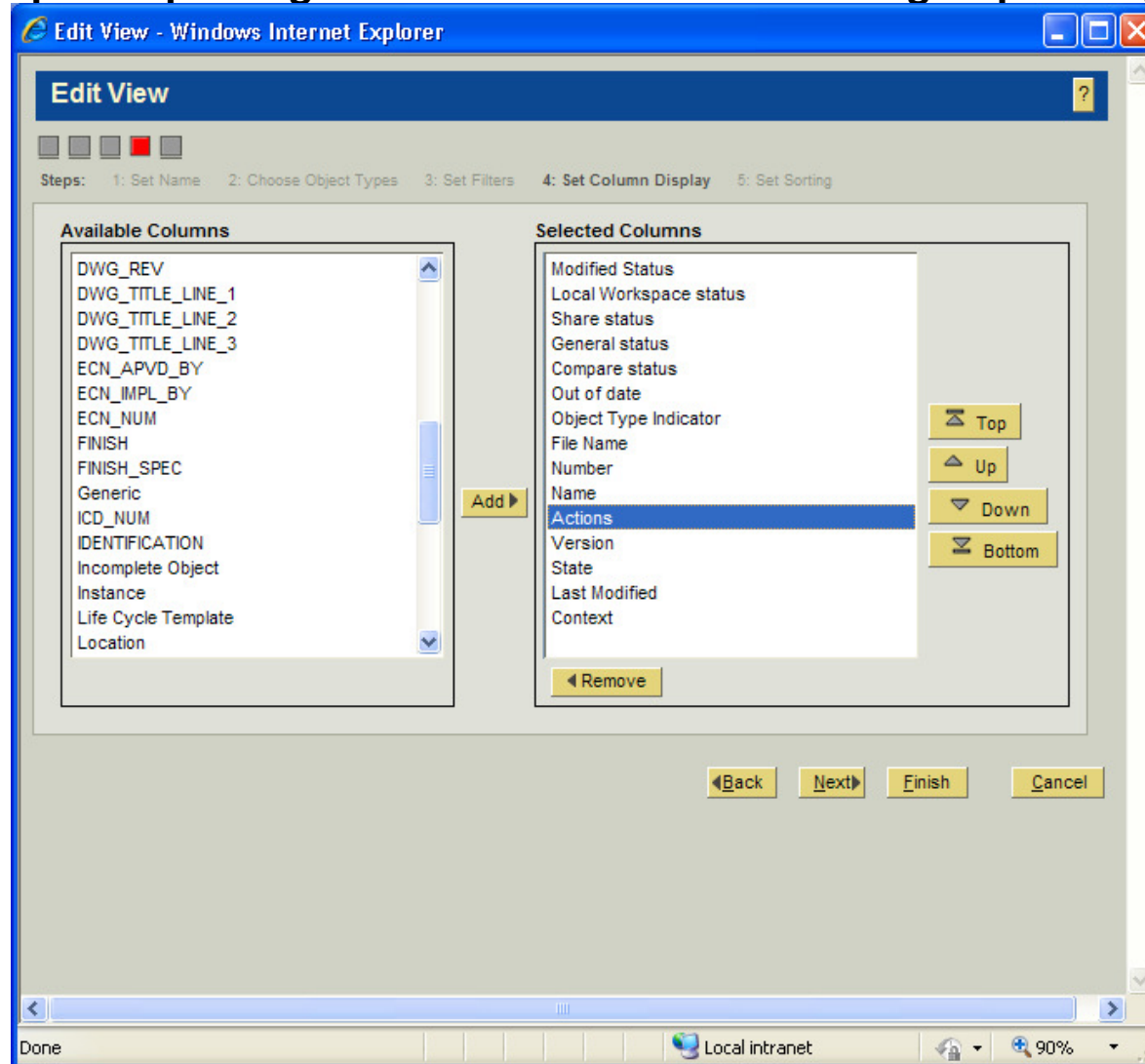
Step 7 – Updating Table Folder Views in Contexts (Products, Projects & Libraries)
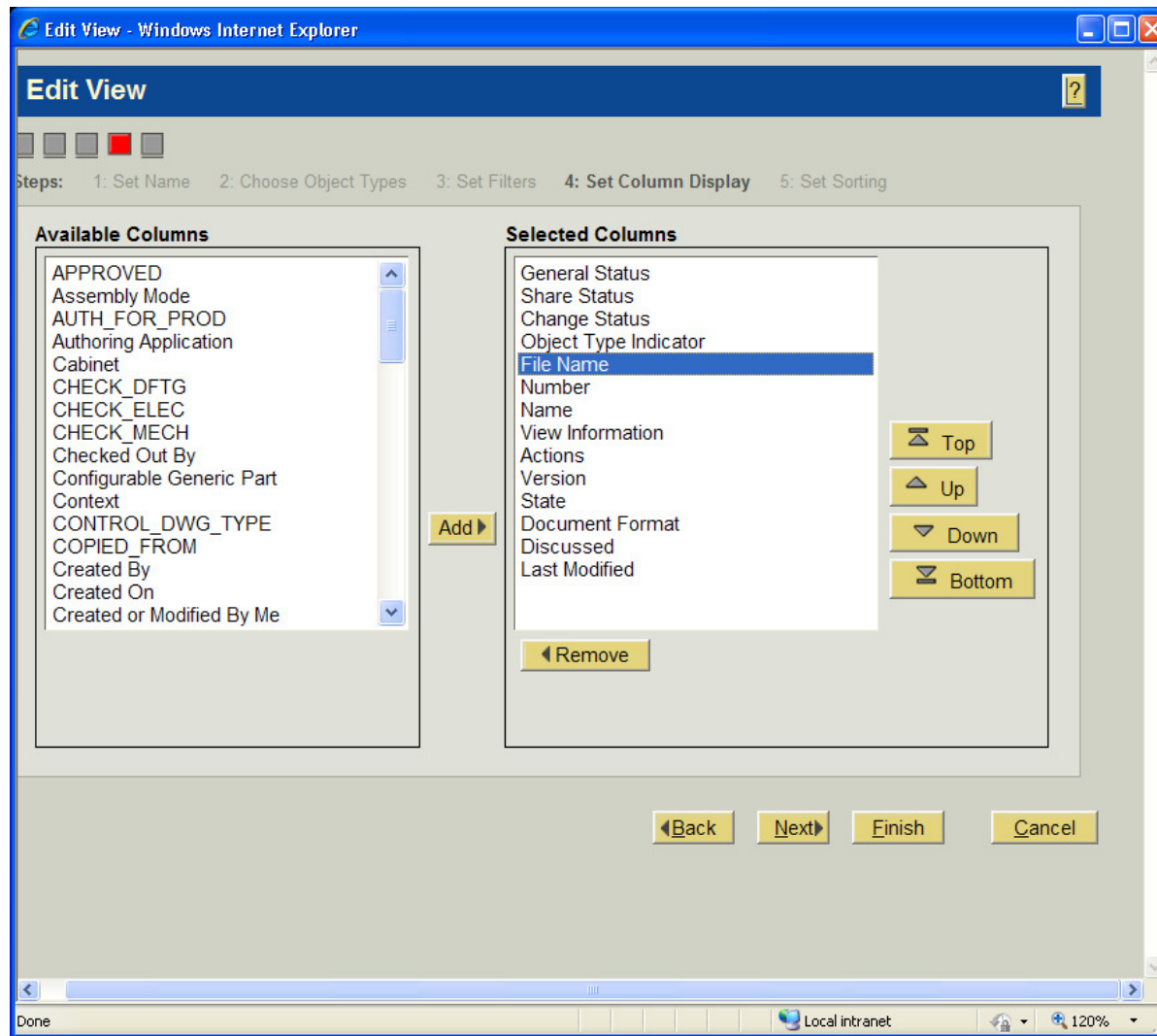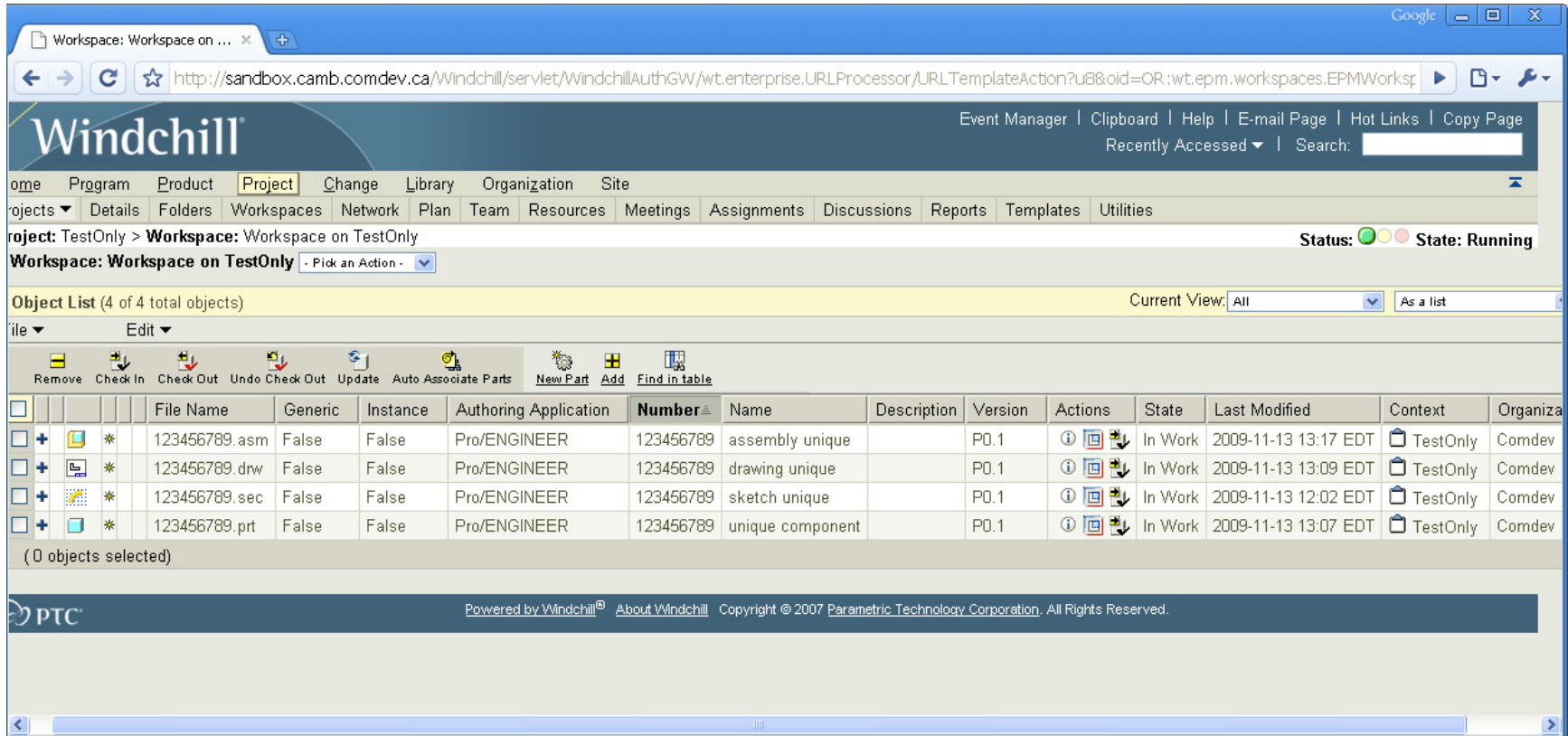
Step 8 – Additional Steps. Must do if this solution is applied prior to Upgrade

- **In Pro/E WGM, it performs file name uniqueness in a API which is not necessary and redundant because it is already performed at the database level. This must be removed or disabled via PTC support or customization.**

- ***During upgrades, prior to Adding Constraints stage in the upgrade, the $WT_HOME/Upgrade/Upgrade/UpgradePhases/AddConstraints/UniqueWork.sql must be modified to accommodate the new unique indexes.**

- **CREATE UNIQUE INDEX EPMDOCUMENTMASTERKEY$UNIQ0 ON EPMDocumentMasterKey(wtkey,idA3organizationReference,idA3namespaceReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0)**

- **CREATE UNIQUE INDEX WTDOCUMENTMASTERKEY$UNIQ0 ON WTDocumentMasterKey(wtkey,idA3organizationReference,idA3namespaceReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0)**

- **CREATE UNIQUE INDEX WTPARTMASTERKEY$UNIQ0 ON WTPartMasterKey(wtkey,idA3organizationReference,idA3namespaceReference) TABLESPACE INDX STORAGE (INITIAL 1m NEXT 1m PCTINCREASE 0)**

- **Changed to:**

- CREATE UNIQUE INDEX EPMDocumentMaster$UNIQUE ON EPMDocumentMaster(documentnumber,doctype,authoringapplication,idA3organizationReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0);

- /

- CREATE UNIQUE INDEX EPMDocumentMasterFile$UNIQUE ON EPMDocumentMaster(cadname,authoringapplication,idA3organizationReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0);

- CREATE UNIQUE INDEX WTDocumentMasterKey$UNIQUE ON WTDocumentMasterKey(wtkey,idA3organizationReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0);

- CREATE UNIQUE INDEX WTPartMasterKey$UNIQUE ON WTPartMasterKey(wtkey,idA3organizationReference) TABLESPACE INDX STORAGE (INITIAL 20k NEXT 20k PCTINCREASE 0);

Result of this Solution

- **WTPart**

  - **Only 1 unique WTPart can exist per organization**

- **WTDocument**

  - **Only 1 unique WTDocument can exist per organization**

- **EPMDocuments**

  - **Are uniquely managed according to number, type, authoring application and organization**

  - **EPM file names are also uniquely managed according to filenames, authoring application and organization (i.e. Pro/INTRALINK behavior)**

- **Thus:**

  - **Auto Association of CAD to Part will be based on synchronizing CAD and WTPart number only. If there is no respective Part number, there will not be an auto creation of Parts**

  - **Number generation is manual for WTDocuments and EPMDocuments if there is a requirement to synchronize WTPart number**

Result of this Solution – Workspace View

Result of this Solution – Context Folder View

Pro/INTRALINK Migrations
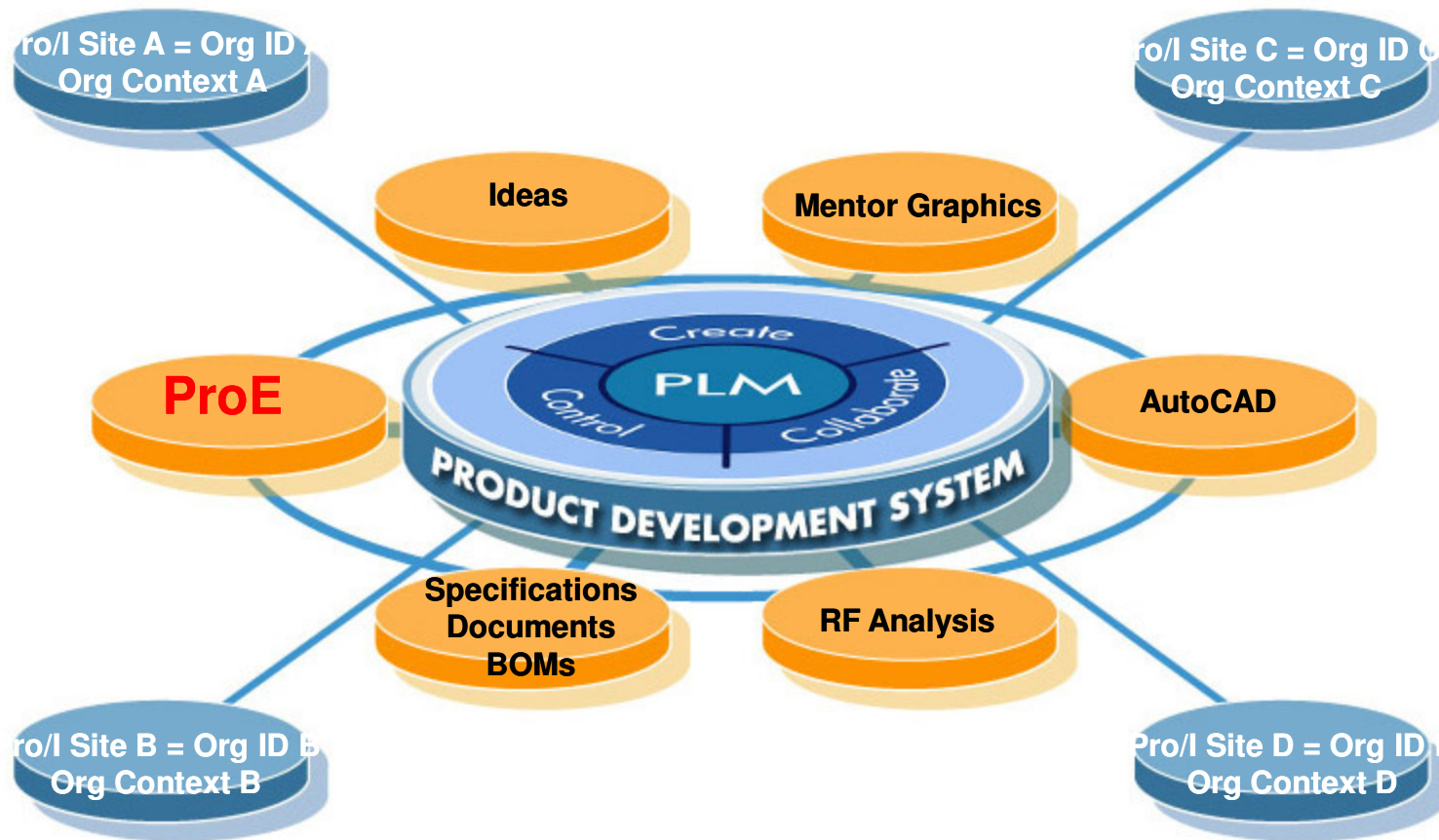
Appendix A – OOTB EPM Management in PLM

All Pro/E separate CAD types, such as assemblies, parts, drawings, sections, layouts, etc, are managed in one unique EPM CAD document object. Most common practice have the same number for various types. Due to PTC Pro/I practices and methodology, the uniqueness was the file name with extension. Pro/I was a file management tool.

Pro/E SECTION

Pro/E PART

Pro/E ASSEMBLY

Pro/E MANUFACTURING

Pro/E DRAWING   EPM DOCUMENT

Pro/E LAYOUT

Pro/E MARKUP

Pro/E DIAGRAM

Pro/E Other file types

Appendix A – OOTB EPM Management in PLM

Furthermore, Windchill allows multiple CAD and Arbortext but they all still are managed by a single EPM document type. Most companies use the same number if copied from one CAD tool to another for collaboration and sharing of IP. Thus, conflicts will occur if the CAD tools use the same number and file name with extension. As a result, OOTB does not following standard practices of both business and CAD tools.

Multiple Pro/E file types
Multiple ACAD types
Multiple CATIA types
Multiple CATIAV5 types
Multiple SOLIDWORKS types
Multiple UG types
Multiple Ideas types
Multiple ARBORTEXT content types
Multiple CADENCE CAD types
Multiple CCD CAD types
Multiple INVENTOR CAD types
Multiple ME10 CAD types
Multiple HELIX CAD types
Multiple ORCAD CAD types
Multiple MENTORB, D and E CAD types
Multiple CADDS5 types
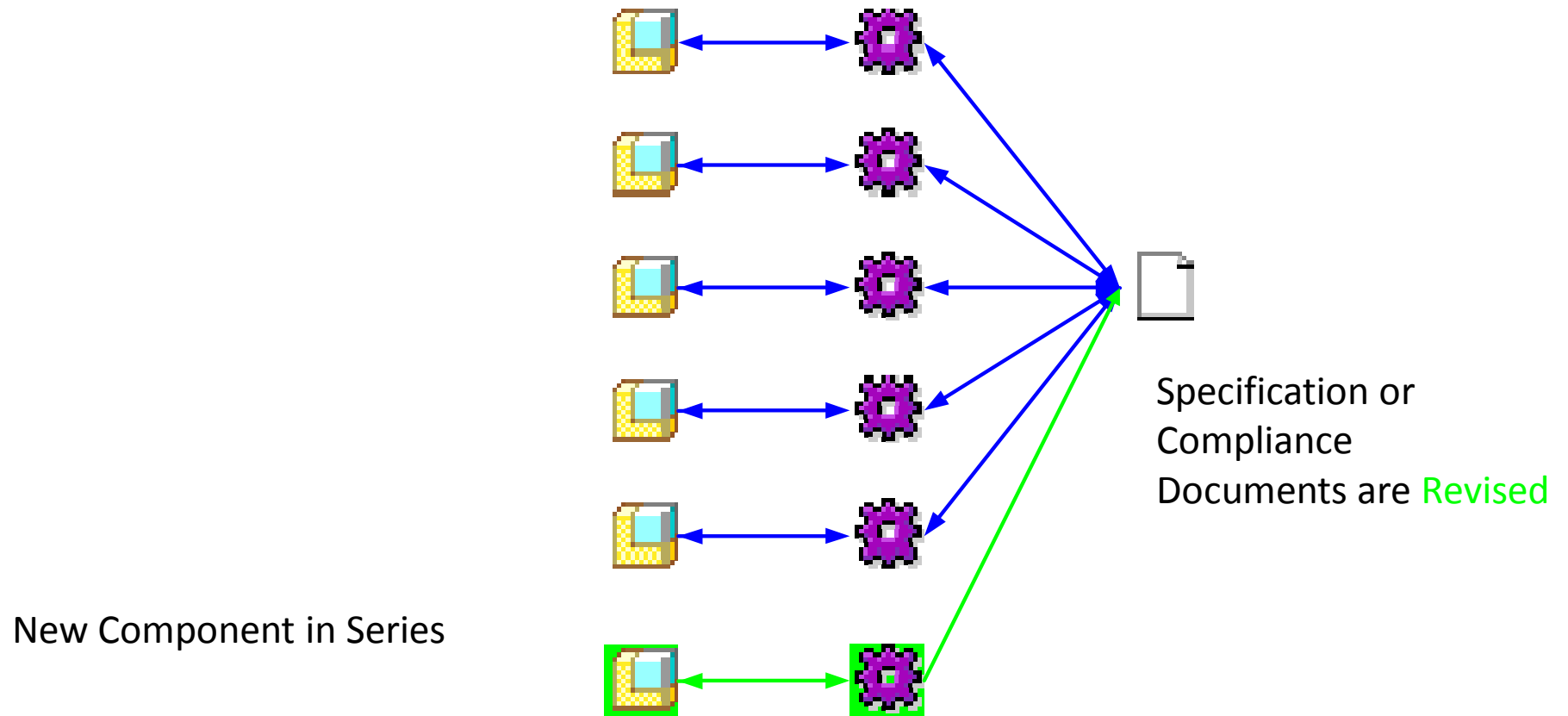Multiple CADSTAR types
Multiple VISULA CAD types
Other CAD types
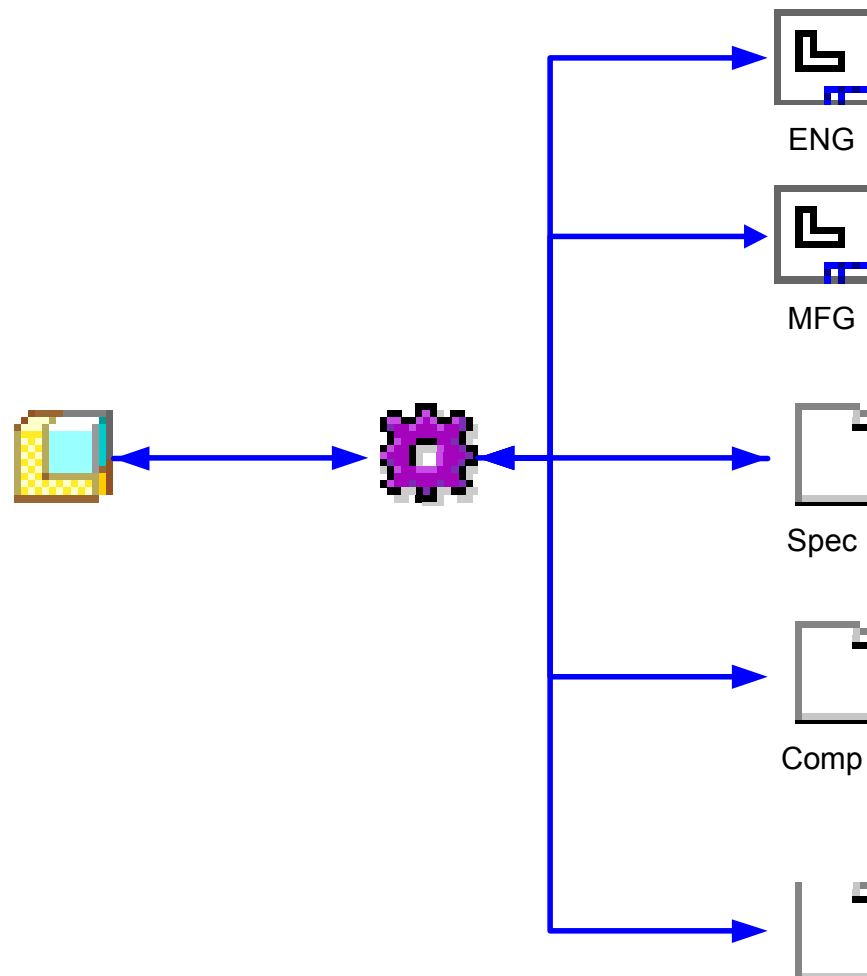
EPM
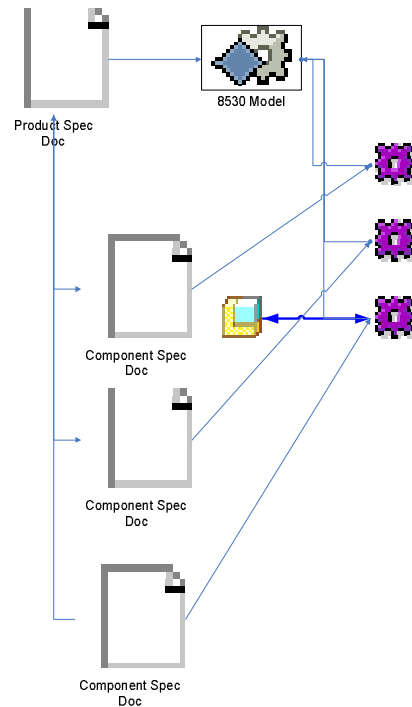DOCUMENT

Relationship between Reference Documents and Components

ENG

MFG

Spec

Comp

Relationship between Reference Documents and Components

Specification or Compliance Documents

Relationship between Reference Documents and Components

Specification or Compliance Documents are Revised
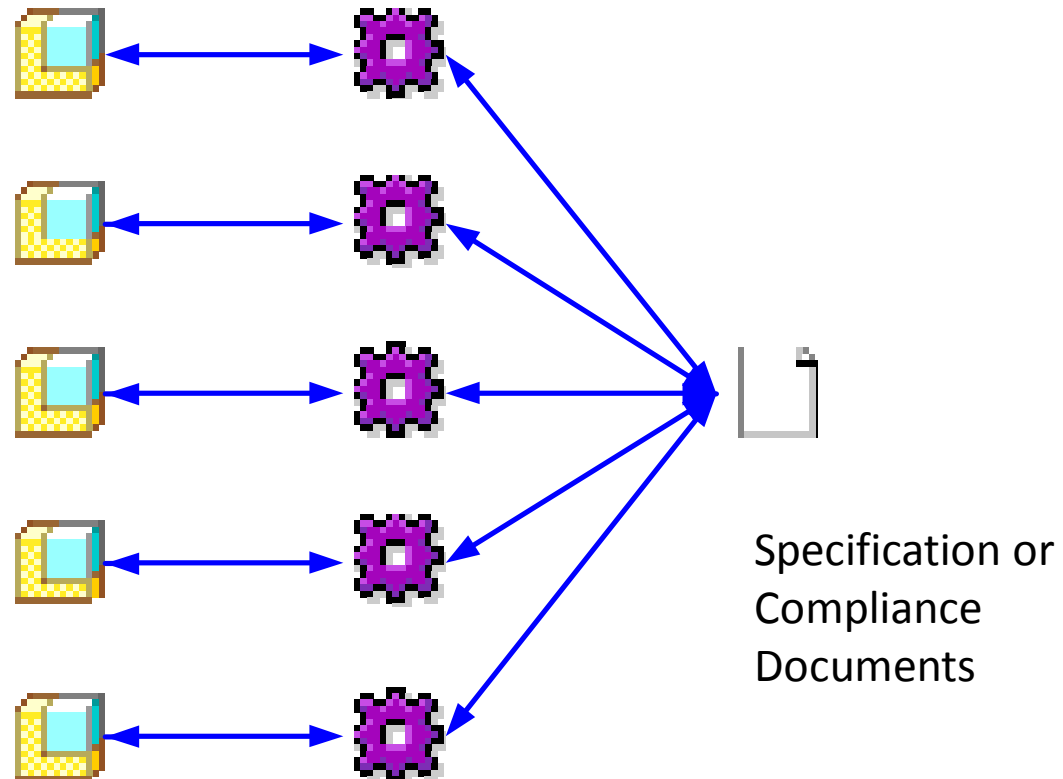
New Component in Series

Product Spec and Component Spec

Product Spec Doc

8530 Model

Component Spec Doc

Component Spec Doc

Component Spec Doc

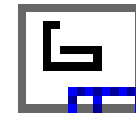# "As Process" CAD Methodology

PDF
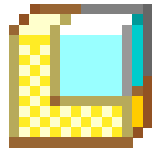
CAD Model

Name: 1234568-001.asm

File Name: 1234568-001.asm

Drawing (Optional)

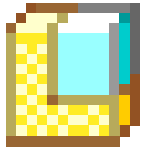**Number: 1234568-001**

Version: A.1

Baan #: 1234568-001

Name: Housing

Attributes

- **Description**
- **Nylon**
- **Black**
- **Smooth Textured**

New Methodology Compliance

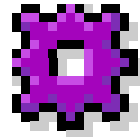**Fit or Form Change after Release**

CAD Model

Number: 1234568

Name: Housing

File Name: 1234568.asm
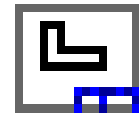

Part Representation

Number: 1234568

Version: 1.1

Baan #: 1234568-001

Name: Housing

Attributes

- **Description**
- **Teflon (temperatures)**
- **Black**
- **Smooth Textured**

Drawing (Optional)

Number: 1234568-001

Version: A.1

Baan #: 1234568-001

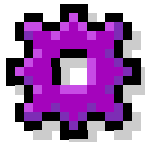**Name: Housing**

Attributes

- **Description**
- **Nylon**
- **Black**
- **Smooth Textured**

PLM CAD Methodology

To be proposed to the Design Automation and executive teams of standardizing engineering and manufacturing for part, ProE CAD model and drawing methodology based on best industry practices.

Standardized Component Part, CAD Model and Drawing Nomenclature Methodology

Part Representation

Number: #######

Version: -.I (- no revision)

Name: 60 characters

Physical Attributes Only

- **Material**
- **Finish**
- **Colour**
- **Dimensions**

Component CAD Model

Number: #######

Version: A.I (A is Alfa)

Name: 60 characters

File Name: #######.prt

        (number + ext)

Component CAD Drawing (Optional)

Number: #######

Version: A.I (A is Alfa)

Name: 60 characters

File Name: #######.drw

        (number + ext)

Attributes:

- **Material**
- **Finish**
- **Colour**
- **RoHS**

Standardized Assembly Part, CAD and Drawing Nomenclature Methodology
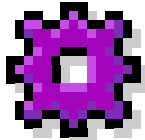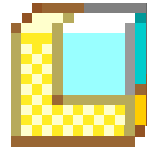

Assembly Part Representation

Number: ######

Version: A.3 (Alpha revision sequence for assemblies)
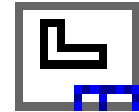
Name: ASSY HOUSING

BOMs:

CAD Assembly Model

Number: ######

Version: A.1

Name: ASSY HOUSING

File Name: ######.asm

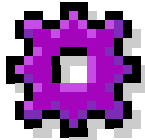**CAD Drawing**

Number: ######

Version: A.1

Name: ASSY HOUSING

File Name: ######.drw

Example of a Standardized Component Part, CAD Model and Drawing

Initial Release

Part Representation

Number: 184786

Version: -.I (- no revision)

Name: COMPONENT TITLE

Physical Attributes Only

- **Material**
- **Finish**
- **Colour**
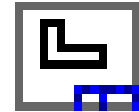- **Dimensions**

Component CAD Model

Number: 184786

Version: A.I (A is Alfa)

Name: COMPONENT TITLE

File Name: 184786.prt

(number + ext)

Component CAD Drawing (Optional)

Number: 184786

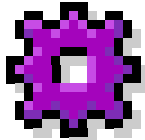**Version: A.I (A is Alfa)**

Name: COMPONENT TITLE

File Name: 184786.drw

(number + ext)

Attributes:

- **Material**
- **Finish**
- **Colour**
- **RoHS**

Example of a Standardized Component Part, CAD Model and Drawing

Drawing Text Change (No Fit, Form & Function Change) after Release

Part Representation

Number: 184786

Version: -.I (- no revision)

Name: COMPONENT TITLE

Physical Attributes Only

- **Material**
- **Finish**
- **Colour**
- **Dimensions**

Component CAD Model

Number: 184786

Version: A.I (A is Alfa)

Name: COMPONENT TITLE

File Name: 184786.prt

      (number + ext)

Component CAD Drawing

Number: 184786

Version: B.I (A is Alfa)

Name: COMPONENT TITLE

File Name: 184786.drw

      (number + ext)

Attributes:

- **Material**
- **Finish**
- **Colour**
- **RoHS**

Example of a Standardized Component Part, CAD Model and Drawing

Fit or Form Change after Release

Part Representation

Number: **new number**

Version: **-.I** (**- no revision**)

Name: COMPONENT TITLE

Physical Attributes Only

- Material
- Finish
- Colour
- Dimensions

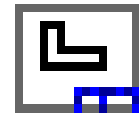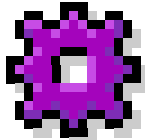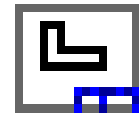### Component CAD Model

Number: **new number**

Version: **A.I** (A is Alfa)

Name: COMPONENT TITLE

File Name: **new number.prt**

(number + ext)

Component CAD Drawing (Optional)

Number: **new number**

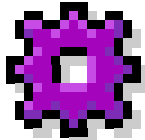Version: **A.I** (A is Alfa)

Name: COMPONENT TITLE

File Name: **new number.drw**

(number + ext)

Attributes:

- Material
- Finish
- Colour
- RoHS

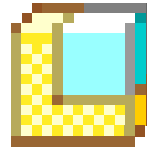# Standardized Assembly Part, CAD and Drawing Nomenclature Methodology

Initial Release

Assembly Part Representation

Number: 136814-101

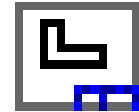**Version: A.3 (Alpha revision sequence for assemblies)**

Name: COMPONENT TITLE

BOMs:

CAD Assembly Model

Number: 136814-101

Version: A.1

Name: COMPONENT TITLE

File Name: 136814-101.asm

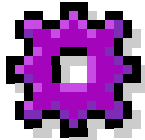**CAD Drawing**

Number: 136814-101

Version: A.1

Name: COMPONENT TITLE

File Name: 136814-101.drw

Standardized Assembly Part, CAD and Drawing Nomenclature Methodology

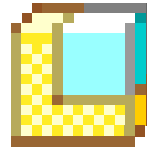**Drawing Text Change (No Fit, Form & Function Change) after Release**

Assembly Part Representation

Number: 136814-101

Version: **A**.3 (Alpha revision sequence for assemblies)
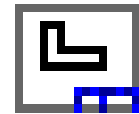
Name: COMPONENT TITLE

BOMs:

CAD Assembly Model

Number: 136814-101

Version: **A**.1

Name: COMPONENT TITLE

File Name: 136814-101**.**asm

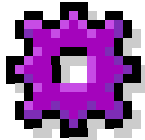**CAD Drawing**

Number: 136814-101

Version: **B**.1

Name: COMPONENT TITLE

File Name: 136814-101.drw

Standardized Assembly Part, CAD and Drawing Nomenclature Methodology

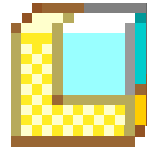**Component change resulting in a new assembly number**

Assembly Part Representation

Number: new number

**Version: A.3 (Alpha revision
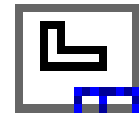sequence for assemblies)**

Name: COMPONENT TITLE

BOMs:

CAD Assembly Model

Number: new number

Version: A.1

Name: COMPONENT TITLE

File Name: new number.asm
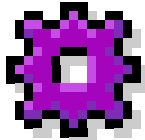

CAD Drawing

Number: new number

Version: A.1

Name: COMPONENT TITLE

File Name: new number.drw

Standardized Assembly Part, CAD and Drawing Nomenclature Methodology
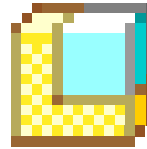
Resulting change in next higher assembly revision

Assembly Part Representation

Number: ########

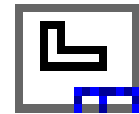**Version: B.3 (Alpha revision sequence for assemblies)**

Name: COMPONENT TITLE

BOMs:

CAD Assembly Model

Number: ########

Version: B.1

Name: COMPONENT TITLE

File Name: ########.asm

CAD Drawing

Number: ########

Version: B.1

Name: COMPONENT TITLE

File Name: ########.drw

Advantages of Standardized Methodology with PLM

- **Visible standard changes in the organization with fit, form and function**

- **Alignment with current bin numbering in MFG**

- **PLM can provide better controls to enforce this methodology with workaround in different PLM libraries and subfolders**